

Determination of the Angular Order of a Locally Simple SOV/20-124-3-7/67
Curve
to one of the domains D_j , let be $q(S_r) \stackrel{\text{def}}{=} q(D_j)$. Let q_1 be the
sum of the sector orders of all sectors with the central angle
zero, let q_2 be the sum of the other sector orders. The number

$$i(A) = \frac{1}{2} (q_1 + \frac{k-1}{k} q_2)$$

is denoted as the index of A .

By simple counting the author obtains the interesting relation

$$p = \sum_{j=1}^m q(D_j) - \sum_{j=1}^n i(A_j) .$$

There is 1 American reference.

PRESENTED :

September 19, 1958 by P. S. Aleksandrov, Academician

SUBMITTED:

September 18, 1958

Card 2/2

USSR/Mathematics - Variational Method 1 Jul 53

"Variational Methods in the Problem of Bifurcation Points," M. A. Krasnosel'skiy and A. I. Povolotskiy

DAN SSSR, Vol 91, No 1, pp 19-22

Generalize results of investigations of nonlinear operators A that operate in Banach space E and transform zero θ of this space to zero O ; namely, operators A of the form JG , where J is a certain unitary operation coinciding with unit I in one invariant subspace of linear operator B and equal to $-I$ on the orthogonal complement, $G (G\theta=\theta)$ is a

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gradient operator of a weakly continuous functional defined in Hilbert space H and possesses at point θ a Frechet derivative of B (this derivative a linear self-adjoint positive-definite operator). Presented by Acad A. N. Kolmogorov 22 Apr 53.

POVOLOTSKIY, A.I.

Generalization of a theorem on the decomposition of a linear
operator. Trudy Len. lesotekh. akad. no.78:27-30 '57.
(Operators (Mathematics)) (MIRA 11:10)

AM4016091

BOOK EXPLOITATION

S/

Krasnosel'skiy, Mark Aleksandrovich; Petrov, Anatoliy Ivanovich;
Povolotskiy, Abram Isaakovich; Zabreyko, Petr Petrovich

Plane vector fields (Vektorny*ye polya na ploskosti) Moscow, Fizmatgiz, 63. 0245 p. illus., biblio. 11000 copies printed.

TOPIC TAGS: vector field, vector field on plane, field on closed curve, vector field singular points, homotopic vector field, degree of mapping singular point index, solvability of equations, boundary value problem, singular differential equation

PURPOSE AND COVERAGE: The book is devoted to an important geometrical analysis method and its applications to different problems of algebra, polynomials, function theory, and theory of ordinary differential equations. Many important results are claimed to be original with the authors. It contains applications of the theory of plane vector fields to existence theorems for systems of differ-

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ential equations, the arrangement of roots of polynomials, singular points and periodic solutions of ordinary differential equations, critical points of harmonic and pseudoharmonic functions, oscillation theorems, two-point boundary problems, and others. It is designed for the reader familiar only with the principles of mathematical analysis, students specializing in physics and mathematics, graduate students, and scientists interested in various nonlinear problems. It can also serve as an introduction to more complicated branches of mathematics, connected with applications of topological methods. The book is based on a special course read by one of the authors (M.A.K.) at the Voronezh University and several papers delivered to the Voronezh Seminar on Functional Analysis.

TABLE OF CONTENTS [abridged]:

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AM4016091

Ch. I. Rotation of vector field - - 7
Ch. II. Index of singular points - - 61
Ch. III. Applications - - 96
Supplement - - 225

SUB CODE: MM

SUBMITTED: 04Jul63

NR REF SOV: 024

OTHER: 009

DATE ACQ: 19Dec63

Card 3/3

POVOLOTSKIY, A.I.
USSR/Mathematics - Asymptotic stability

Card 1/1 Pub. 22 - 2/40

Authors : Povolotskiy, A.I.

Title : On the existence of incoherent spectra of non-linear, completely continuous operators

Periodical : Dok. AN SSSR 99/3, 345-348, Nov 21, 1954

Abstract : The existence of a class of non-linear operators forming a discontinuous spectrum with a system of intervals, which belong to various continuous components of the Λ , is proved. The proof is accomplished by the topological methods based on a concept of a rotating, completely-continuous vector field which is equivalent to a degree in "Leray-Schauder" mapping. Six Russian references (1936-1951).

Institution: Akmolinsk Technicum of the Railroad Transportation of the Karagandinsk Railroad

Presented by: Academician P.S. Alexandroff, September 2, 1954

POVOLOTSKIY, A.I.

Nonlocal theorems for the existence of solutions in systems of
nonlinear integral equations. Dokl. AN SSSR 99 no.6:901-904 D '54.
(MLRA 8:2)

1. Predstavleno akademikom P.S.Aleksandrovym.
(Integral equations)

POVOLOTSKIY, A. I.

USSR/Mathematics - Nonlinear Operators

Jul/Aug 53

"Application of Variational Methods in the Problem on Bifurcation Points,"
M. A. Krasnosel'skiy, Voronezh

Mat Sbor, Vol 33 (75), No 1, pp 199-214

Gives the following definition: The number λ_0 is called a bifurcation point of a nonlinear operator A acting in a certain Banach space if for any positive epsilon and delta one can find an eigenvalue λ and an eigenvector ϕ of A (i.e. $A\phi = \lambda\phi$) such that $|\lambda - \lambda_0| < \epsilon$ and $\|\phi\| < \delta$. Operators that act in a Hilbert space H and are the gradients of certain functionals are defined as potential operators, following the ideas of L. A. Lyusternik and L. G. Shnirel'man. Aim here is to demonstrate the basic linear operator B is the point of bifurcation of a nonlinear operator G . Acknowledges assistance of A. I. Povolotskiy in the formation of this work. Presented 13 Oct 52.

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USSR/Mathematics - Variational Method 1 Jul 53

"Variational Methods in the Problem of Bifurcation Points," M. A. Krasnosel'skiy and A. I. Povolotskiy

DAN SSSR, Vol 91, No 1, pp 19-22

Generalize results of investigations of nonlinear operators A that operate in Banach space E and transform zero θ of this space to zero 0 ; namely, operators A of the form JG , where J is a certain unitary operation coinciding with unit I in one invariant subspace of linear operator B and equal to $-I$ on the orthogonal complement, G ($G\theta=\theta$) is a

gradient operator of a weakly continuous functional defined in Hilbert space H and possesses at point θ a Frechet derivative of B (this derivative a linear self-adjoint positive-definite operator). Presented by Acad A. N. Kolmogorov 22 Apr 53.

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16(1) 16. 1000

AUTHOR: Povolotskiy, A.I.

SOV/20-129-2-8/66

TITLE: Singular Point Indices of Pseudoanalytic Functions

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 2, pp 265-267 (USSR)

ABSTRACT: Let the nonconstant function $f(z)$ be analytic in the neighborhood G of the point $z=a$ (at most except in $z=a$). Let the vector field Ψ of the gradients

$$\left\{ P = \frac{\partial U}{\partial x}, Q = \frac{\partial U}{\partial y} \right\}$$

of a harmonic function $U(x,y)=\text{Re } f(z)$ have no zero vectors in the points $G \setminus a$. The rotation of the field Ψ on an arbitrary Jordan curve L lying in G and which circulates $z=a$ is denoted as the index $\gamma(a)$ of the point $z=a$.

Theorem 1. For the original of an $(m-1)$ -fold branch point it is

$$(3) \quad \gamma(a) = -(m-1);$$

for a pole of order m it is

$$(4) \quad \gamma(a) = m+1;$$

for a logarithmic branch point it is

$$(5) \quad \gamma(a) = 1.$$

Theorem 2: Let

$$(7) \quad f(z) = \frac{1}{(z-a)^n} + A \ln(z-a) + F(z)$$

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Singular Point Indices of Pseudoanalytic Functions SOV/20-129-2-8/66

in the neighborhood of $z=a$, where A is real and $F(z)$ analytic in $z=a$. Then it is $\gamma(a)=n+1$.
Theorem 3: Let $f(z)$ be pseudoanalytic in a domain D being γ -fold connected, then it is

$$(10) \quad \sum \gamma(a_j) = 2 - \gamma + I,$$

where the sum is extended over the singularities of theorem 1 and I is the vector index of the function $\operatorname{Re} F(z)$ concerning the domain D .

The author mentions F.D.Gakhov and Yu.M.Krikunov.
There are 5 references, 4 of which are Soviet, and 1 American.

ASSOCIATION: Leningradskaya lesotekhnicheskaya akademiya imeni S.M.Kirova
(Leningrad Forestry Academy imeni S.M.Kirov)

PRESENTED: July 6, 1959, by P.S.Aleksandrov, Academician

SUBMITTED: June 30, 1959

Card 2/2

POVOLOTSKIY, A.I.

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Povolockii, A. I. Nonlocal existence theorems for solutions of systems of nonlinear integral equations. Dokl. Akad. Nauk SSSR (N.S.) 99 (1954), 901-904 (Russian)

If B is a completely continuous operator in a sphere T of a Hilbert space which includes its 0 point and if $(B\varphi, \varphi) < (\varphi, \varphi)$ for all φ on the surface of T then $B\varphi = \varphi$ has at least one solution in T . Using this fixed-point theorem of Krasnosel'skii [same Dokl. (N.S.) 88 (1953), 949-952; MR 14, 1095] the author establishes existence of a solution for the system of integral equations

$$\varphi_i(x) = \lambda \int_G K_i(x, y) f_i(y, \varphi_1(y), \dots, \varphi_n(y)) dy \quad (i=1, \dots, n)$$

under various conditions. A typical set of conditions is:
The mapping

$$A: (u_1(x), \dots, u_n(x)) \rightarrow$$

$$(v_1(x), \dots, v_n(x))$$

ДОВОЛЮЩИЙ, А.И.

$$\left\{ \int_G K_1(x, y) u_1(y) dy, \dots, \int_G K_n(x, y) u_n(y) dy \right\}$$

can be factored, $A = HH^*$, with H completely continuous;

$$f_2(x, z_1, \dots, z_n) z_k \leq a_k z_k^2 + b_k(x) |z_k|^{2-r_k} + c_k(x);$$

$$\lambda < \min (1/a_i \lambda_i), i = 1, \dots, n,$$

where λ_i is the largest eigenvalue of $K_i(x, y)$. A few theorems concerning the factoring $A = HH^*$ and the mapping $\{u_1(x), \dots, u_n(x)\} \rightarrow \{f_1(x, u_1(x), \dots, u_n(x)), \dots, f_n(x, u_1(x), \dots, u_n(x))\}$

$$f_n(x, u_1(x), \dots, u_n(x))\}$$

are also stated. No proofs are given.

M Golomb.

2
2

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POVOLOTSKIY, A.I.

Eigenvectors on hyperboloids in a Hilbert space. Izv. vys. ucheb.
zav.: mat. no.4:126-140 '59. (MIRA 12:11)

1. Leningradskaya lesotekhnicheskaya akademiya.
(Operators (Mathematics))

POVOLOTSKIY, A.M., inzh.

Welding aluminum busbars with vertical seams. Vest.elektroprom.
28 no.8:68-71 Ag '57. (MIRA 10:10)

1.Leningradskiy proyektnyy institut "Tyazhpromelektroproyekt."
(Welding)

AUTHOR: Povolotskiy A.M. (Engineer) SOV/110-59-1-12/28
TITLE: Automatic Welding of Rectangular Aluminium Busbars with a
Molten Electrode (Avtomaticheskaya svarka alyuminiyevykh
shin pryamougol'nogo secheniya plavyashchimsya elektrodom)
PERIODICAL: Vestnik Elektromyshlennosti, 1959, Nr 1, pp 46-47 (USSR)

ABSTRACT: Because of the large amount of work involved in welding busbars, for instance in electrical aluminium plants, it is very advantageous to do this welding automatically. On the basis of work carried out at the Institute of Electric Welding of the Acad.Sci. Ukr.SSR on the automatic welding of aluminium alloys, a technique has been developed for the automatic welding of aluminium busbars that is applicable to installation of the busbars on standard electrolytic baths for aluminium. The automatic welding set used is type TS-17-M-A intended for welding aluminium alloy strip and sheet. An aluminium electrode is used under a layer of flux. There are certain difficulties in the automatic welding of such busbars because the welds are comparatively short, the material is quite thick and it is necessary to weld the entire section at a single pass of the electrode. When the

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SOV/110-59-1-12/28

Automatic Welding of Rectangular Aluminium Busbars with a Molten Electrode

butt ends of the busbars have been machined without provision for a gap at the butt it is also necessary to weld the joints from the back. If the butt ends are not accurately cut the flux falls into the gap and forms electrical and thermal barriers which greatly reduce the depth of melting. Moreover, since the flux cannot flow away freely it forms slag inclusions in the weld. With the maximum operating conditions, namely current 850 A, arc voltage 40 to 50 V and electrode diameter 5 mm, the greatest depth of melting of busbars when welding without a gap between them does not exceed 26 mm. Hence it is not possible to weld the busbars at a single pass. When there is a gap between the busbars it is important to maintain the flux on the surface of the seam during the welding process. This is achieved by putting on the gap an aluminium foil 25 mm wide, on to which powdered flux is poured. In this way the flux is held on the surface of the seam during welding, which creates favourable conditions for formation of the seam. With welding carried out by this method the electrical resistance of the weld is less than that of an equal

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Automatic Welding of Rectangular Aluminium Busbars with a Molten Electrode

length of busbar; also, the weld can be bent through 180° without breaking and in tensile tests the original busbar metal fails in the annealed zone and the ultimate strength is 7 to 7.5 kg/cm². Examination of the macro-structure of the weld shows that melting is complete, there are no inclusions, porosities or hair cracks. When welding a bundle of foils of 35 (310 x 1) mm to a busbar, the arc causes the upper foils of the bundle to swell and burn and flow in towards the molten metal, which hinders formation of the weld. This effect may be avoided by applying a steel compression plate to the bundle of foils. A difference between the welding of bars and that of bundles of foils is that in the latter case the arc is appreciably displaced in the direction of the solid busbar (Fig 3), so that the foils are insufficiently heated. This is due to the different conductivities of the bundles of the foils and the solid busbars. Because of the presence of an oxide film on each of the 35 foils, the conductivity of the bundle is less than that of the solid busbars. Therefore, the arc

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is deflected towards the solid busbars and under-heating results. As a remedy it suffices to displace the electrode by 5 mm (or 1 electrode diameter) in the direction of the foils; this approximately equalises the conductivity between the busbar and the bundle of foils and thus prevents under-heating. In this case, just as in welding busbars, the gap at the top of the butt is covered by a strip of aluminium. The electrode material used to weld busbars to foils is aluminium wire grade AD-1; the consumption of wire is about 500 g per weld. In order to reduce the shrinkage hollow on the busbar, the end of the weld should be transferred from the busbar to a special aluminium liner of the same thickness applied to the edge of the butt. It is better to weld a number of bars arranged in a row than to weld a single bar. The use of automatic welding on busbars of

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SOV/110-59-1-12/28

Automatic Welding of Rectangular Aluminium Busbars with a Molten
Electrode

sections up to 310 x 35 mm increases the labour
productivity by 30 to 40%, compared with manual welding.
There are 3 figures, no references.

SUBMITTED: March 17, 1958

Card 5/5

ANDIANOV, L.I.; YEVSEYEV, R.Ye.; POVOLOTSKIY, A.M.; KUZNETSOV, V.A.;
OBERSHTEYN, A.A.

Arrangement of copper-aluminum crossovers in the bus bars of
electrolytic cells. Prom.energ. 15 no.4:17 Ap '60.
(MIRA 13:6)

(Electrometallurgy) (Bus conductors(Electricity))

S/0137/63/000/011/2024/2024

ACCESSION NR: AR4015545

SOURCE: RZh. Metallurgiya, Abs. 11E175

AUTHOR: Povolotskiy, A. M.

TITLE: Contact welding of aluminum to steel

CITED SOURCE: Sb. Progressivn. metody* svarki na montazhn. rabotakh. M., 1962, 261-266

TOPIC TAGS: contact welding, aluminum-steel welding

TRANSLATION: Experiments on the contact welding of aluminum to steel were carried out on an ASA-60 contact welder equipped with a spring-powered contact drive. The welding was performed by the fusion method with manual feed. The best results were obtained with a 1:3 ratio of Al and St bars (Al 30 X 3 mm, St 45 X 6 mm) with a 31 mm steel bar overhang and a 16 mm Al bar overhang. The rate of fusion varied from 3 to 40 mm/sec. The setting rate was 150 mm/sec, and the total fusion and setting time was 2 sec. Tests of the welded joints showed that they withstood a 180° bend along the seam, and repeated 90° bending along the seam.

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ACCESSION NR: AR4015545

In tensile strength tests, the Al bar broke rather than the seam. A study of the microstructure revealed three basic zones: the Al zone, the zone of diffusion of steel in Al and Al in steel (solid St + Al solution), and the steel zone. The seam was found to contain individual insular eutectic deposits of Fe + Al_3Fe of insignificant size. V. Fomenko.

DATE ACQ: 09Dec63

SUB CODE: ML

ENCL: 00

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S/137/62/000/004/178/201

A154/A101

1.2000 (also 2408)

AUTHOR: Povolotskiy, A.M.

TITLE: Welding and soldering aluminum to steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 64, abstract
4E355 ("Vestn. elektroprom-sti", 1961, No. 11, 76 - 77)

TEXT: When welding Al to steel there must be no brittle components of Al_3Fe and $AlFe_3$ in the seam. The welding conditions must be such that an alloy containing $\leq 1.9\%$ Fe in the zone adjoining the steel is formed in the weld. Experiments showed that in gas- and arc-welding it is impossible to obtain joints of satisfactory toughness. Sound joints may be made in these metals by resistance butt welding on a welder having a percussive-upsetting drive which effectively forces out the brittle component at the moment when the metal is in the liquid phase. Experiments in the resistance welding of Al to steel were made on an ASA-60 (ASA-60) type butt welder with a spring-actuated upsetting drive. Flash welding with a manual feed from a manual drive was employed. The best results were obtained at a ratio of 1 : 3 between the cross-sections of the Al and the steel busbars. Sound welds are obtained only when the projecting end of the Al

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Welding and soldering.....

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busbar is completely flashed off, when the upsetting takes place at the terminal block on which the bus is fixed. The gaps between the butt ends being flashed off should be minimal. It is very important to select the optimum speed of the movable plate. Soundness of the welds was ascertained by tests for electrical conductivity, bending, tension, cyclic heating as well as by examination of the weld microstructure. Welds made under optimum regimes withstand bending by 180° along the weld and repeated bending by 90° along the weld. Destruction in tension tests takes place along the Al bus. Specimens made under satisfactory welding regimes have 3 main zones: Al, diffusion of steel into Al and Al into steel (solid solution Fe + Al), and a steel zone. The weld does not increase the electrical resistance of the joint. To find out the effect of heating on the mechanical properties of the joints, specimens were heated to 300°C. After several cycles of heating to 300°C and cooling, the specimens were subjected to impact tests along the weld (until they bent by 15 - 20°). The impact load was then applied to the reverse side of the weld until bending by 30 - 40° took place in the opposite direction. The specimens straightened out again. After the tests no visible changes in the weld were detected. The electrical resistance of the resistance weld did not increase after several heating cycles. Tests in soldering steel to Al also gave satisfactory results. Zn was found to be the

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Welding and soldering....

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A154/A101

best solder. Busses were lap-, butt-, and slot-soldered. Lap soldering gave the best results. In tensile tests the specimens were destroyed along the homogeneous Al. The electrical resistance on the soldered section was less than half the total resistance of the Al and steel on such sections.

L. Rubanovich

[Abstracter's note: Complete translation]



Card 3/3

POVOLOTSKIY, A.M., inzh.

Welding and soldering of aluminum and steel. Vest. elektroprov.

32 no.11:76-77 N '61.

(MIRA 14:11)

(Aluminum--Welding)

(Steel--Welding)

POVOLOTSKIY, A.S., red.

[Manufacture of parquet flooring] Proizvodstvo parketa; bibliograficheskii ukazatel' otechestvennoi i inostrannoi literatury za 1936-1959 gg. Moskva, 1960. 47 p. (MIRA 15:5)

1. Moscow. Tsentral'naya nauchno-tekhnicheskaya biblioteka lesnoy i bumazhnoy promyshlennosti.

(Parquet floors)

KAUFMAN, B.N., kand. tekhn. nauk; SHMIDT, L.M.; SKOBLOV, D.A., inzh.,;
POVOLOTSKIY, A.S., inzh.; ZARNITSKAYA, R.L., red. izd-va; GOL'BERG,
T.M., tekhn. red.

[Cement fibrolite] TSementnyi fibrolit. By B.N.Kaufman i dro. Mo-
skva, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit. materialam,
1961. 158 p. (MIRA 14:10)

1. Akademiya stroitel'stva i arkhitektury SSSR. Vsesoyuznyy nauchno-
issledovatel'skiy institut rezykh stroitel'nykh materialov.
(Insulating materials)

KAUFMAN, Boris Naumovich, kand.tekhn.nauk; POVOLOTSKIY, Aleksandr
Semenovich, inzh.; SHMIDT, Leonid Moyseyevich, inzh.; SKOBLOV,
Dmitriy Alekseyevich, inzh.; NIKOLAYEV, L.N., inzh., nauchnyy
red.; SKVORTSOVA, I.P., red.; GILSON, P.G., tekhn.red.

[Manufacture and use of particle board abroad] Proizvodstvo i
primeneniye drevesno-struzhechnykh plit za rubeshom. Moskva, Gos.
izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1958.
195 p. (MIRA 12:4)

(Wood, Compressed)

KRIVOSHEY, D.; DRAGUNOV, V.; TYSHKO, V.; KORENYAK, A., starishiy inzh. po tekhnike bezopasnosti; MOLCHANOV, A., rabochiy syr'yevogo tsekha; POVOLOTSKIY, B.; LOBACHEV, L.; SUKHANOV, A.; ZEMLYACHENKO, I.; KOZLOV, A.; POPENKO, F., inzh. (Moskva); SHAPIRO, A.

Editor's mail. Okhr.truda i sots.strakh. 5 no.8:32-33 Ag '62.

(MIRA 15:7)

1. Glavnyy inzh. shakhty "TSentral'naya", Krivoy Rog (for Kirvoshey).
2. Pomoshchnik glavnogo inzh. po tekhnike bezopasnosti shakhty "TSentral'naya", Krivoy Rog (for Dragunov).
3. Nachal'nik ventilyatsii shakhty "TSentral'naya", Krivoy Rog (for Tyshko).
4. Tomskiy podshipnikovyy zavod 5-GPZ (for Korenyak).
5. Kabluchnaya fabrika, g. Nerekhta (for Molchanov).
6. Predsedatel' zavodskogo komiteta Moskovskogo zavoda zhelezobetonnykh izdeliy No.7 (for Lobachev).
7. Transportnaya kontora tresta "Sterlitamakstroy", g. Sterlitamak (for Sukhanov).
8. Predsedatel' mestnogo komiteta gorodskoy tipografii, g. Michurinsk (for Zemlyachenko).
9. Predsedatel' komissii okhrany truda gorodskogo komiteta professional'nogo soyuza meditsinskikh rabotnikov, g. Yevpatoriya (for Kozlov).
10. Vneshtatnyy tekhnicheskyy inspektor Voronezhskogo oblastnogo soveta professional'nykh soyuzov (for Shapiro).

(Industrial hygiene)

POVOLOTSKIY, B.

To check means to help. Okhr. truda i sots. strakh. 5 no.9:
24 S '62. (MIRA 16:5)

1. Chlen Obshchestvennogo soveta redaktsii zhurnala "Okhrana truda
i sotsial'noye strakhovaniye".
(INDUSTRIAL HYGIENE)

POVOLOTSKIY, B.

Quiet backwater. Okhr. truda i sots. strakh. 5 no.6:28-29 Je '62.
(MIRA 15:7)

1. Neshtatnyy korrespondent zhurnala "Okhrana truda i sotsial'noye strakhovaniye".

(Agricultural machinery--Safety measures)

POVONTRA, A.

Distri: 4E2c

Determination of small amounts of mercury in inorganic raw materials. Emil Krouček and Pavel Povoncha (Výzkumný ústav pro zušlechťování rud, Prague). Chem. listy 52, 1825-7(1958).—Dissolve 1-2 g. of a S-contg. Hg ore with Lefort's reagent, or an Fe-contg. Hg ore by heating with HCl and oxidizing with HNO₃. Transfer the soln. with the residue into a 100-ml. Claisen flask, add 20 ml. H₂SO₄ (1:1), and distil until white fumes appear. Add from a sepg. funnel 25 ml. HCl (1:1) during 50 min., keeping the temp. in the neck of the flask at 110-30°. Det. the Hg in the distillate with dithizone or mercapto-phenylthiothiadiazolone.

M. Hudlický

POVOLOTSKIY, D. S. Cand Tech Sci -- "Improving the use of the ^{carrying} ~~lifting~~ capacity
of cars and ^{reducing} ~~decreasing~~ the losses in ^{the hauling} ~~transportation~~ of coal." Mos, 1961
(Min of Railways USSR. Mos Order of Lenin and Order of Labor Red Banner Inst
of Engineers of Railroad Transport im I. V. Stalin). (KL, 4-61, 200)

-227-

POVOLOTSKIY, D.S., inzh.

Vibration method for packing coal in gondola cars. Zhel.dor.transp.
42 no.5:75-77 My '60. (MIRA 13:9)
(Vibrators) (Coal--Transportation)

POVOLOTSKIY, D.S., inzh.

Vibratory coal packing as a means for improving the load capacity
of cars. Vest.TSNII MPS 19 no.40-42 '60. (MIRA 13:4)
(Railroads--Freight cars)
(Coal--Transportation)

POVOLOTSKIY, D. Ya.

Effects of the technology of basic open hearth steelmaking on the hydrogen content in the steel. *Trudy Inst. Gorn. P. V. Povolotskiy and B. Kh. Khay. Trudy Inst. Chern. Metall. Akad. Nauk Ukr. S.S.R.* 7, 25-32 (1953); *Referat. Zhurn. Khim.* 1954, No. 29531. — The study was carried out in a 50-ton basic open hearth operating by the scrap process and fueled by a hot producer gas. The charge was made up of pig 40% and steel scrap and turnings 60%. A total of 7 melts of C and alloyed steels was studied. Samples were removed from the hearth with a slag ladle at equal time intervals. The samples were deoxidized with Al and poured into open, pencil-type molds. Immediately after cooling in water, the sample was placed in a vacuum glass together with solid CO₂ where it was kept to the time of analysis; not over 20 hrs. Simultaneously with taking samples for H detn, also samples were taken for chem. analysis. The viscosity of slag was detd. in a viscometer with a horizontal channel of 6.4 mm. diam. H was detd. by heating the sample *in vacuo* at 420–60°. The main factor affecting the quantity of H in steel was found to be the fluidity of the slag. Lowering the fluidity of the slag during the final melt favors the lowering of H in steel before deoxidation. Viscous slag insulates the metal better from the chem. action of the flame. Bauxite added to slag to liquify it increases the H content in steel by approx. 1.5 cc./100 g. To obtain a dense slag crushed grog, sand, or feldspar can be used. During the treatment of the bath with ore there was in all cases a lowering of H content in the metal. The intensity of H removal from the bath by CO bubbles exceeds during this period the intensity of H entering the metal from the furnace gases. The change in the av. rate of C burning during the heating and final melt stages does not noticeably affect the H content in the steel. Preliminary deoxidation of the steel in the furnace with blast-furnace ferrosilicon causes an increase in the H content of the metal. Tapping the metal without preliminary deoxidation gives a steel with a lower H content and of better quality. M. Hosh.

POVOLOTSKIY, D. Ya.

27 18 18 4E2C
 Effect of sulfur in the gas phase on desulfurization of steel
 in open-hearth furnaces / D. Ya. Povolotskiy. Trudy
 Inst. Ch. i Met. Akad. Nauk S.S.S.R. 7, 48-53 (1953).
 The distribution coeff. of S between slag and metal and rate
 of desulfurization of metal in open-hearth furnaces during
 boiling and finishing periods is practically independent of
 concn. of S in the gas phase. Problems in desulfurization of
 metal to the required limits while using high-S fuel arise dur-
 ing loading and main melting periods before the charge is
 covered with slag. During this period there is an intensive
 adsorption of S from the furnace atm. Y. N. Bedarev.

POVOLOTSKIY, D. Ya.

Desulfurizing steel. D. Ya. Povolotskii. Trudy Inst. Chern. Met., Akad. Nauk Ukr. S.S.R. 6, 77-82 (1953); Referat. Zhur., Khim. 1954, No. 17109.—Great difficulties in desulfurizing steel are encountered when the gaseous phase contains appreciable quantities of S. As the time of hardening increases the absorption of S by the metal rises. When the open hearth operates on producer gas contg. considerable quantities of S, desulfurization becomes more difficult. In such circumstances it is the practice to slag and drain off the slag, or more oxidizing conditions are contrived in the furnace; this, however, extends the time of a melt. Periodic dusting of the checkers with a substance capable of absorbing S should activate the checkerwork to desulfurize the gas. Dolomite calcined at 700°, lime, CaC₂, Mn, and Fe ores were tested for dusting the checkers. Producer gas was passed through an elec.-furnace tube which held a boat with the material to be tested at 600, 800, and 1000°. Of the materials tested slightly calcined dolomite proved the best for adsorbing S. Tests in a 35-ton open-hearth furnace showed that dusting the checkers with dolomite increases their S-adsorption capacity by 23%, and increasing the quantity of blown dust raises the activity of the checkers still more. M. Hosh

POVOLOTSKIY, David Yakovlevich; DOBROKHOTOV, N.N., redaktor; SHTUL'MAN,
~~I.I., redaktor; KR'LOVSKAYA, N.S., tekhnredaktor;~~

[Desulfurization in steel making] Udalenie sery pri proizvodstve
stali. Kiev, Izd-vo Akademii nauk Ukrainskoi SSR, 1955. 65 p.
(MLRA 8:11)

1. Deystvitel'nyy chlen Akademii nauk USSR (for DobrokhotoV).
(Steel--Metallurgy)

POVOLOSKIY, D. Y. and KHAN, B. Kh.

"Effects of Hydrogen on the Qualities of Steel" p. 26, Trudy Instituta Chernoy Metallurgii, Vol. 9, 1955.

MOROZOV, A.N.; POVOLOTSKIY, D.Ya.; ISAYEV, V.F.

Taking specimens for determining the hydrogen content of steel
manufactures. Zav.lab. 22 no.7:867-869 '56 (MLRA 9:12)

L. Chelyabinskiy politekhnicheskiy inatitut.
(Steel--Analysis) (Hydrogen--Analysis)

POVOLOTSKIY, L.Ya., MOROZOV, A.M., KOLISOV, M.I., KOSBOVSKIY, L.D., STROGANOV, A.I.,
VAYNSHTEIN, O.Ya.

"Behaviour of Hydrogen in Steel During its Production and Remelting,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of
Metallurgy, Moscow, July 1-6, 1957

POVOLOTSKIY, D.Ya.; KOSSOVSKIY, L.D.

Effect of the welding up of flakes on the mechanical properties of
steel. Izv.vys.ucheb.zav.; chern.met, 4 no.6:129-133 '61.
(MIRA 14:6)

1. Chelyabinskiy politekhnicheskii institut i Chelyabinskiy
metallurgicheskii zavod.
(Steel ingots---Defects)

SOV/137-59-1-353

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 44 (USSR)

AUTHORS: Morozov, A. N., Povolotskiy, D. Ya., Keys, N. V.

TITLE: A Study of the Kinetics of the Process of Desulfurization of Steel in Electric Arc Furnaces (Izucheniye kinetiki protsessy obesserivaniya stali v elektricheskikh dugovykh pechakh)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 112-123. Diskuss., pp 160-187

ABSTRACT: Experimental smeltings of ball-bearing steel were conducted in electric arc furnaces with capacities of 30-40 tons; the radioactive isotope (RI) S^{35} in the form of an iron sulfide was introduced into the metal after the charge had melted, as well as in the beginning of the reduction period. It was established that in the course of the oxidation period the RI is distributed throughout the volume of the metal and the slag within 15 minutes, whereas the ratio (1%S):[1%S] attained a constant value in 10-20 minutes. The constancy of relative concentration of the RI in the metal [1/%S] was preserved during the oxidation period only when the content of the S amounted to 0.022 - 0.032%; at a lower S content it was reduced owing to the fact

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SOV/137-59-1-353

A Study of the Kinetics of the Process of Desulfurization of Steel (cont.)

that a certain amount of S was carried into the furnace by the slag-forming substances. In the course of the reduction period, the distribution of the RI between the metal and the slag was completed within a period of 10-20 minutes following its introduction. A reduction of the relative concentration of the RI in the metal and in the slag observed subsequently is also attributable to quantities of S being carried into the furnace by the slag-forming components. It was established that, in contrast with radioactive S, ordinary S distributes itself between the metal and the slag at a significantly slower rate; this is explained by the fact that the rate of isotope exchange between the S^{35} ions and ions of ordinary S exceeds the rate of desulfurization of the metal. It is concluded that the rate of desulfurization in an electric furnace is determined by the rate of the chemical reaction occurring on the phase boundary, the concept of the chemical reaction being thought of as including the process of the transition of the S from one phase into another.

A. Sh.

Card 2/2

18(7)

PHASE I BOOK EXHIBITION

SOV/3024

Povolotskiy, David Yakovlevich, and Aleksandr Nikolayevich Morozov

Vodorod i flokeny v stali (Hydrogen and Flakes in Steel) Moscow,
Metallurgizdat, 1959. 182 p. Errata slip inserted.
2,800 copies printed.

Ed.: K. M. Trubetskov; Ed. of Publishing House: L. F. Petrusha;
Tech. Ed.: P. G. Islent'yeva.

PURPOSE: This book is intended for scientific and technical
personnel in the metallurgical and machine-building industries.

COVERAGE: The book deals with the effect of dissolved hydrogen on
the properties of steel and on flake formation. Specific
questions discussed are the behavior of hydrogen during the
steelmaking process and subsequent ingot-reduction and the
effect of heat treatment on hydrogen content and flake
formation. The author also discusses current methods of
dealing with the flake problem and the mechanism of flake
formation in steel. No personali-

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SOV/3024

ties are mentioned. There are 130 references: 95 Soviet, 22 English, 9 German, 2 French, 1 Swedish, and 1 Chinese.

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2. Effect of Hydrogen on the Properties of Steel 16

3. Effect of Hydrogen on Flake Formation in Steel 26

4. Behavior of Hydrogen in Steelmaking Processes 31

Basic open-hearth process 31

Acid open-hearth process 60

Steelmaking in basic electric furnaces 63

Elimination of hydrogen in the vacuum treatment of liquid steel 69

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Hydrogen and Flakes in Steel

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PART II. FLAKES IN STEEL

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Hydrogen and Flakes in Steel

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AVAILABLE: Library of Congress

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VK/jmr
2-4-60

POVOLOTSKIY, D. Ya.; LUBENETS, I. A.; KOLOSOV, M. I.; FAYNSHTEYN, O. Ya.; MOROZOV, A. N.

Obeskremnivanje martenovskogo churuna kislorodom.

report submitted for the 5th Physical Chemical Conference on Steel
Production, 30 Jun 1959, Moscow.

18(3)

SOV/148-59-1-4/19

AUTHORS: Povolotskiy, D.Ya., Candidate of Technical Sciences, Docent,
Malinovsky, Ye.I., Candidate of Technical Sciences

TITLE: The Effect of a Constant Electric Field on Sulfur Migration
in the Metal-Slag System (Vliyaniye postoyannogo elektricheskogo polya na peremeshcheniye sery v sisteme metall-shlak)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Chernaya metallurgiya,
1959, Nr 1, pp 35-38 (USSR)

ABSTRACT: Information is given on experiments carried out for the purpose of completing the existing data relating to the effect of a constant electric field on sulfur migration in the metal-slag system. The described experiments were carried out in the magnesite crucible of a high-frequency furnace where 10 to 12 kg of low-carbon steel were smelted; direct and alternating current were passed through the slag and the metal with the use of graphite and ferrous electrodes. It was proved that the passing of a constant electric field through the metal-slag system with a low FeO content caused the discharge of sulfuric ions on the anode, thus confirming the theory that sulfur in the slag existed in the form of negative ions.

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SOV/148-59-1-4/19

The Effect of a Constant Electric Field on Sulfur Migration in the Metal-Slag System

It was stated that the electrolytic refining of cast iron from sulfur was possible, although the practical efficiency of the method must be tested. In a metal-slag system with a FeO content exceeding 7%, the effect of direct current on electrolytic sulfur migration was not observed, which was explained by the fact that a relatively high ferrous oxide content in the slag increased the potential of ferrous ions and that the process of their recharging prevented the electrolytic sulfur migration.

There are: 1 table and 5 references, 4 of which are Soviet and 1 English.

ASSOCIATION: Chelyabinskiy politekhnicheskii institut (Chelyabinsk Polytechnical Institute)

SUBMITTED: December 2, 1958

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18(3)

AUTHORS:

Povolotskiy, D. Ya., Morozov, A. N.

SOV/163-59-1-9/50

TITLE:

Hydrogen Content and the Formation of Internal Cracks in Semi-finished Products With a Heavy Profile (Soderzhaniye vodoroda i obrazovaniye flokenov v zagotovkakh krupnogo profil'ya)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 1, pp 37-41 (USSR)

ABSTRACT:

In this investigation the billets were bored through in the center of one side face by means of a core bit. The core extracted by the core bit had a diameter of 10-12 mm whereas its length was equal to the width of the billet. Previous to the analysis the sample was crushed and then the hydrogen content was determined (Ref 4). 130 roughed billets and rolled blooms from 30 different steel melts, exhibiting pearlite, pearlite-martensite, and martensite structures, were investigated. It appeared that the hydrogen is distributed inhomogeneously through the cross sectional area of the billets cooled in air, whereby the hydrogen concentration decreases from the axis toward the exterior zones of the billet. A heat treatment (annealing at 660-700° through 30-40 hours) did hardly reduce the overall hydrogen content in the metal and

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Hydrogen Content and the Formation of Internal
Cracks in Semifinished Products With a Heavy Profile

SOV/163 59-119/50

modify the character of hydrogen distribution through the cross sectional area of the billet. Annealing extended over even longer periods, however, results in a decrease of the non-uniformity of hydrogen distribution in the central and exterior zones. The non-uniform hydrogen distribution through the billet cross section is a consequence of the inhomogeneous hydrogen distribution occurring in the ingots. This is proved right by the experiments described in this paper. A rolling to a thinner profile (down to 127x127 mm) does not modify the nature of hydrogen distribution. In order to immunize the steel against the formation of internal cracks, the hydrogen content must be reduced to a value of 1.5-2.0 $\text{cm}^3/100 \text{ g}$. This can be achieved by exposing the molten metal to a vacuum or by a protracted annealing of the semifinished steel products at 660-700° after the first working. In order to reduce the hydrogen content in semifinished steel products with a cross sectional area of 250x250 mm to a value of 2 $\text{cm}^3/100 \text{ g}$ the annealing process must be continued to 90-120 hours. By this treatment the metal becomes insensitive to crack formation. This fact was revealed in the course of special investigations.

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Hydrogen Content and the Formation of Internal
Cracks in Semifinished Products With a Heavy Profile

SOV/163-59-1.9/50

After this long-term annealing (90-120 hours) the 250x250 mm roughed billets were cooled under a water shower (1 heat) or they were cooled in air and then heated to 950-1,270° with subsequent air or water shower cooling. (10 heats). The roughed blocks from another 5 heats were annealed for a long time, cooled in air, heated again, and then rolled down to a square of 120 to 140 mm edge length. These billets did not undergo further thermal treatment but were cooled in air. Although the experiments were conducted with a steel exhibiting a tendency toward crack formation, cracks could be found in no case. Similar experiments with semifinished steel product from the same heats, which were annealed through 30-40 hours at 660-700° showed that a repeated heating and in particular a subsequent hot working leads to crack formation. It was shown that there is no need to insist on slow cooling after forging (pressing). In order to prove this assertion, roughed billets (square profile with 250 mm edge length) from 6 heats of alloyed steels with pearlite, pearlite-martensite, and martensite structures were annealed at 660-700° through 90-140 hours, rolled down on the roughing mill and sent to

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Hydrogen Content and the Formation of Internal
Cracks in Semifinished Products With a Heavy Profile

SOV/163-59-1-9/50

another plant for forging and pressing, where after the working the forgings were cooled in air. In no case a crack formation was found. These results were confirmed by the experience gained with some hundred tons of steel. There are 3 figures, 2 tables, and 4 references, 2 of which are Soviet.

ASSOCIATION: Chelyabinskiy politekhnicheskii institut (Chelyabinsk Polytechnical Institute)

SUBMITTED: March 25, 1958

Card 4/4

S/137/61/000/002/011/046
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 2, p. 33, # 2D302

AUTHORS: Povolotskiy, D.Ya., Pakuleva, V.S.

TITLE: Heat Treatment Preventing the Formation of Flakes in the Martensite Class Steels

PERIODICAL: "Sb. nauchno-tekhn. tr. N.-1. in-t metallurgii Chelyab. sovmarkhoz", 1960, No. 1, pp. 95 - 99

TEXT: Investigations and semi-industrial tests were made to improve the heat-treatment conditions of martensite class steel and similar steels of the perlite-martensite class (18XHB A (18KhNVA), 30XH3A (30KhNZA), 45XHMΦA (45KhNMΦA)). During heat treatment isothermal holding at 250-300°C is employed which promotes accelerated austenite decomposition; the treatment is followed by softening tempering. For instance, blooms of 250 x 250 mm section are air cooled after rolling to 250 - 300°C, placed in a furnace heated to 300°C, held for 20 hours and heated

Card 1/2

S/137/61/000/002/011/046
A006/A001

Heat Treatment Preventing the Formation of Flakes in the Martensite Class Steels
to 650°C for stress relief during 4 - 8 hours. A check-up performed after 4 ... 6
months did not reveal flakes in the metal. Isothermal holding time, so shortened,
reduces flake formation by 20%. There are 3 references.

A.B.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

82583

18.7100

S/148/60/000/006/008/010

AUTHORS: Povolotskiy, D. Ya., Bakshi, O. A.

TITLE: On the Effect of Internal Stress on Flake Formation in Steel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1960, No. 6, pp. 124-130

TEXT: It was established by previous investigations that the hydrogen content in steel had a primary effect on flake formation. The effect of internal stress was considered to be secondary. The latest studies proved, however, that both the hydrogen content and the internal stress might be factors leading to the formation of flakes. There are few data available on changes in the internal stress of shaped rolled or forged steel work, resulting from heat treatment, preventing flake formation. Investigations were carried out into the effect of a special heat treatment on the magnitude and way of the distribution of internal stress of the I order. Moreover, an attempt was made to determine stress of the II order by X-ray structural analysis. Tests were performed with 18X7T(18KhGT) steel containing 0.22% C, 0.9% Mn, 0.23% Si, 1.07% Cr and 0.1% Ti. Blanks were rolled from annealed blooms and subjected to heat treatment and air cooling. Other blanks were air cooled directly after rolling without undergoing an

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On the Effect of Internal Stress on Flake Formation in Steel

intermediate heat treatment. The hydrogen content was determined by a method developed by A. N. Morozov, D. Ya. Povolotskiy, and V. F. Isayev. Internal stress was determined by N. V. Kalakutskiy's and N. N. Davidenko's methods. Linear measurements were made with a general-purpose microscope. The following results have been obtained: there were no flakes observed in blanks subjected to heat treatment after rolling. The absence of flakes was not due to the elimination of hydrogen but to the effect of a decrease in the internal stress. Tensile stress was not able to cause flake formation but created favorable conditions for this process. Thermal treatment of flake-sensitive steels caused considerable reduction of tensile stress; this is one of the main causes for the absence of flakes in steel work after annealing. The determination of stress of the II order performed by X-ray structural analysis showed considerable changes in tangential and radial stress. The values obtained are not reliable, although the presence of internal stress of the II order in blanks which were air cooled after rolling, is beyond any doubt. Stress, caused by the presence of hydrogen in steel, combined with internal stress, resulting from cooling and deformation, cause the formation of flakes. There are 2 sets of microphotos, 2 graphs and 8 references: 7 Soviet and 1 English.

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82583

S/148/60/000/006/002/010

On the Effect of Internal Stress on Flake Formation in Steel

ASSOCIATION: Chelyabinskiy politekhnicheskiy institut (Chelyabinsk Polytechnic
Institute)

SUBMITTED: September 18, 1959

4

Card 3/3

S/140/00/000/010/010
A101/A030

AUTHOR: Povolotskiy, D.Ya.

TITLE: Hydrogen Diffusion in Steel Billets

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1960, No. 10, pp. 79 - 83

TEXT: Uneven hydrogen distribution, with 2 - 3 times more in the mid of blooms than at the surfaces, had been stated in previous studies (Ref. 5,6) in which the author participated. This proves that the formula suggested by G.I. Batalin and N.M. Chuyko (Ref. 2) for determining the annealing time for the elimination of hydrogen is not correct, for it is based on even hydrogen distribution. The diffusion coefficient was calculated in the subject investigation using experiment data and the formula (2), and found to be $4.25 \cdot 10^{-4}$ cm²/sec, i.e., much higher than determined by Sykes (Ref. 7) as well as by Chuyko (Ref. 2), and Ryabov and Gel'd (Ref. 8). Though the formula (2) (Ref. 3,4) is usually employed for determination of the elements' content at a single point $\bar{x}$ at a distance from the surface during the time $\bar{z}$ and calculation of the diffusion coefficients, it gave satisfactory results in determination of the mean hydrogen content across the entire

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Hydrogen Diffusion in Steel Billets

S/148/66/000/C.L.C/006/018
A161/A030

cross section area of blooms taking one half of bloom thickness for the distance from the surface and corresponding mean values for the initial and final concentration. The formula is $\frac{[H]_x}{[H]_H} = 1 - f\left(\frac{x}{2\sqrt{Dz}}\right)$, where $[H]_H$ - is the initial H concentration; $[H]_x$ the concentration at distance x from the surface; $f\left(\frac{x}{2\sqrt{Dz}}\right)$ to be determined; $f\left(\frac{x}{2\sqrt{Dz}}\right)$ the Gauss error function for determination of the dimensionless similarity criterion $\frac{x}{2\sqrt{Dz}}$. The curves (Fig. 2) calculated with this formula are near the points determined by measurements in 250 x 250 mm and 200 x 200 mm blooms. (the solid line curve 3). The elimination of hydrogen from steel billets begins not from the very start of annealing but after an "incubation" time of about 25 h for 250 x 250 mm blooms and 15 h for 200 x 200 mm. The "incubation" had been revealed by other investigators as well (Ref. 9). Conclusions: 1) Hydrogen is eliminated from billets during annealing at 660 - 700°C. The quantity of separated hydrogen is proportionate to the diffusion coefficient and in inverse proportion with the square of the cross section area and can be calculated using the Gauss error function. 2) The approximate value of the hydrogen diffusion coefficient in steel at 660 - 700°C is $4.25 \cdot 10^{-4}$ cm²/sec. 3) The incubation period is proportionate to the square of the cross section area and in inverse proportion with the diffusion coefficient. There are 2 figures and 9 references; 7 Soviet and 2/4

Hydrogen Diffusion in Steel Billets

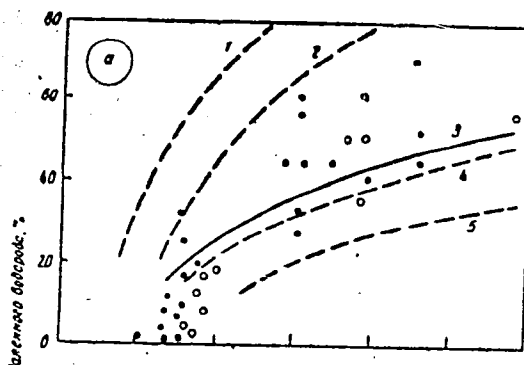
S/148/60/000/010/006/012
A161/A030

and 2 English.

ASSOCIATION: Chelyabinskiy politekhnicheskiy institut (Chelyabinsk Polytechnical Institute)

SUBMITTED: June 15, 1959

Figure 2:



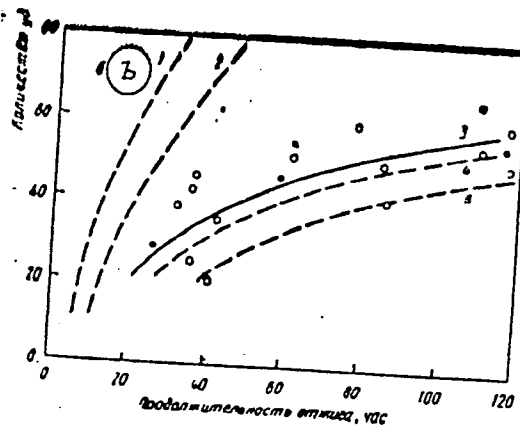
Card 3/4

Hydrogen Diffusion in Steel Billets

S/148/60/000/010/006/018
A161/A030

Figure 2:

The effect of annealing time in 660 -
- 700°C on the hydrogen content in the
axial zones of blooms: a) 250 x 250
mm blooms; b) 200 x 200 mm blooms.
Experiment data for steel: • - pearlite
class; o - martensite class; 1, 2, 3,
4, 5, - calculated values.
(The curve 3, solid line, calculated
with the formula (2))



Card 4/4

KRICHEVETS, M.I. (Chelyabinsk); POVOLOTSKIY, D.Ya., (Chelyabinsk)

Distribution of calcium between the metal and the slag
during the smelting of nickel-chromium base heat-resistant
alloys. Izv. AN SSSR. Met. i gor. delo no.4:76-79 J1-Ag '64.
(MIRA 17:9)

POVOLOTSKIY, D.Ya.; BAKSHE, O.A.

Hydrogen brittleness of steel. Izv.vys.ucheb.zav.; Chern.met. 8
no.6:54-59 '65. (MIRA 18:8)

1. Chelyabinskiy politekhnicheskii institut.

N L 13066-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/HW
 ACC NR: AP5028573 SOURCE CODE: UR/0148/65/000/011/0039/0043

AUTHOR: Krichevets, M. I.; Donets, I. C.; Royak, D. B.; Povolotskiy, D. Ya. 64

ORG: Chelyabinsk Polytechnic Institute (Chelyabinskiy politekhnicheskiy institut) B

TITLE: Effect of the slag regime of melting on the plasticity of Ni-Cr-base alloys 27-21

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1965, 39-43

TOFIG TAGS: slag, nickel base alloy, chromium base alloy, plasticity, alumina, calcium

ABSTRACT: The principal parameter investigated was the Al_2O_3/CaO ratio of the slag, since this technological factor largely determines the conditions of the reduction of Ca which, according to V. M. Pridantsev (Vliyaniye primesey i redkozemel'nykh elementov na svoystva splavov. Metallurgizdat, 1962), adversely affects the plasticity of Ni-Cr-base heat resistant alloys. As the Al_2O_3/CaO ratio increases, the Ca content of the melt decreases. This was verified by carrying out a large series of experimental remeltings in an electric arc furnace. The plasticity of the metal was determined visually (by forging samples to a 20 mm square with bending through 180°) and by determining the Ca content and the impact strength of specimens at high temperatures. Basic and alumina slags were used in the melting. During melting under basic slags, a slag mixture of lime and feldspar was added in the course of the melting process. 16

Card 1/2 UDC: 669.15-194:669.24'26.046.5

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ACC NR: AP5028573

After complete melting of the burden, slagging was carried out. During melting under alumina slags, technical alumina was added in the course of melting; no slagging was performed. In all other respects the melting operations were conventional. It was found that the use of alumina slag with a high Al_2O_3/CaO ratio assures a high plasticity of metal. Use of limy slag (low Al_2O_3/CaO ratio) markedly increases the Ca content of the metal so that plasticity is lost at forging temperatures. This was verified by tests of the impact strength of the metal of the experimental melts. In the specimens with a low Ca content the maxima of impact strength are observed at temperatures of 1000-1100°C. By contrast, for specimens from melts in which limy slag was employed, where the Ca content was high, the maximum impact strength is observed at 650-900°C and is only about half as low as for the specimens melted under alumina slag. An Al_2O_3/CaO ratio of 0.55-0.57 is the limit of plasticity under the conditions of these investigation. Essentially then the degree of reduction of Ca from the slag during melting increases with increasing proportion of the Al used as the reducing agent. Orig. art. has: 2 figures.

SUB CODE: 11, 13/ SUBM DATE: 24Aug64/ ORIG REF: 005/ OTE REF: 000

Card

2/2

HW

L 21740-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) Pad IJP(c)/ASD(m)-3/RAEM(c) MJW/
JD/HW

ACCESSION NR: AP4043918

S/0279/64/000/004/0076/0079

AUTHOR: Krichevets, M.I. (Chelyabinsk); Povolotskiy, D.Ya. (Chelyabinsk) B

TITLE: Calcium distribution between metal and slag in melting heat-resistant
alloys on a nickel-chromium base R

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 4, 1964, 76-79

TOPIC TAGS: calcium distribution, heat resistant alloy, nickel, chromium, slag,
equilibrium, plastic property, nickel chromium alloy, nickel alloy, chromium alloy

ABSTRACT: The authors investigated the conditions of an equilibrium distribution of Ca during the melting of EI437B alloy in a high-frequency furnace, under slags having the following composition: 48% CaO, 52% Al₂O₃, 70% CaO and 30% Al₂O₃. Holding time was 4 to 5 minutes. In computing the activity of the different components, hot slag was considered an ionic solution with one common oxygen anion. The invariability of the equilibrium constant of the Ca reduction reaction within the 1673 to 2273K temperature range corroborates the Ca equilibrium achieved by the metal-slag system under experimental and industrial conditions.

Card 1/2

L 21740-65

ACCESSION NR: AP4043918

The activity coefficient of calcium and aluminum oxides depends to a certain extent on the chemical composition of the slag. An increase of the Al_2O_3 content in the slag raises the Al_2O_3 activity coefficient while it decreases the CaO activity coefficient, a fact attributed to an increase in the cohesive energy of Ca^{2+} ions in the melt and a weakening of that energy in the case of Al^{3+} ions. Consequently, the chemical composition of the slag and the Al contents in the metal are basic technological parameters that determine the plastic properties of heat-resistant alloys on an Ni-Cr base. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 23Dec63

ENCL: 00

SUB CODE: MM

NO REF SOV:002

OTHER: 000

Card 2/2

VAYNSHTEYN, O.Ya.; MOLCHANOVA, A.A.; POVOLOTSKIY, D.Ya.; KHRUYUKINA, V.A.;
SHUL'KIN, M.L.

Production of 18KhNT and 15KhGHTA steel in open-hearth furnaces.
Stal' 23 no.7:621-623 J1 '63. (MIRA 16:9)
(Steel alloys--Metallurgy) (Open-hearth furnaces)

BOGATENKOV, V.F.; VAINSTEIN, O.I. [Vavnshteyn, O. Ya.]; ZVEREV, B.F.; KOLOSOV,
M. I.; LUBENET, I. A. [Lutenets, I. A.]; KOKOZOV, A. M.; POVOLOTYY, D.I.
[Povolotskiy, D. Ya.]; STROGANOV, A.I.

Desilicification of Martin iron in mixers. Analele metalurgie 16 no.1:
21-27 Ja-Mr '62.

BOGATENKOV, V.F.; VAYNSHTEYN, O.Ya.; ZVEREV, B.F.; KOLOSOV, M.I.; LUBCHETS,
I.A.; MOROZOV, A.N.; POVOLOTSKIY, D.Ya.; STROGANOV, N.I.

Desiliconization of open-hearth pig iron in the mixer. Izv. vys.
ucheb. zav.; chern. met. 4 no.8:32-36 '61. (MIRA 14:9)

1. Chelyabinskiy metallurgicheskiy zavod, Chelyabinskiy nauchno-
issledovatel'skiy institut metallurgii i Chelyabinskiy politekhnich-
eskiy institut.

(Cast iron--Metallurgy)

POVOLOTSKIY, D.Ya.

Effervescence of the bath and changes in hydrogen content during the
open-hearth process. Izv.vys.ucheb.zav.; chern.met. no.4:46-52 '61.
(MIRA 14:4)

1. Chelyabinskiy politekhnicheskiy institut.
(Open-hearth process) (Steel--Hydrogen content)

S/148/61/000/006/010/013
E071/E480

AUTHORS: Povolotskiy, D.Ya., Kossovskiy, L.D.

TITLE: The influence of welding off of flakes on the mechanical properties of steel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1961, No.6, pp.129-133

TEXT: The possibility of welding off of flakes during subsequent hot working of metal by pressure is well known and widely used in works' practice, but the influence of this practice on the mechanical properties of steel was not sufficiently investigated. For this reason the authors studied the influence of welding off of flakes on the mechanical properties of steels 40XHMA (40KhNMA) and 40XM (40KhN) which are particularly sensitive to the formation of flakes. The procedure was as follows: after passing through the blooming mill, two blooms out of four (sample No.1) were cooled in air, while the other two (sample No.2) were heat treated to prevent the formation of flakes. After 10 to 30 days, templets were cut out from the blooms for the flake control and the blooms were rolled into billets. Billets from sample No.1 were cooled in air and from sample No.2 cooled slowly in pits to prevent

Card 1/3

S/148/61/000/006/010/013
EO71/E480

The influence of welding off ...

the formation of flakes. After retention for 5 months, all the billets were rolled on a merchant mill, whereupon 10 rods were produced from each sample. All samples were cooled in air and examined for flakes. Specimens 25 mm in diameter and 300 mm long were cut out from four rods of each sample (i.e. originating from two blooms) and tested for fatigue strength in the longitudinal direction. Moreover, 5 specimens 25 x 25 mm were cut out from each of 10 rods and tested for impact strength in the transverse direction. Specimens for mechanical testing were heat treated according to **ГОСТ** (GOST) standards, whereupon hardening, annealing and cooling of specimens from various rods were done simultaneously. Tests for fatigue strength were done on standard specimens of 9.5 ± 0.02 mm diameter on a bending machine operating with a constant bending moment along the whole length of the specimen. It was found that flakes were formed in all blooms cooled in air but not in thermally treated ones. On rolling of blooms into billets with a coefficient of elongation of 3, flakes were apparently welded off, but formed again on cooling in air. No flakes were found in the final rods. Thus on rolling
Card 2/3

The influence of welding off ...

S/148/61/000/006/010/013
E071/E480

with a coefficient of elongation of 4.7 and more, flakes in the metal were welded off. It is concluded that on rolling blooms (245 x 245 - 262 x 262 mm) and billets (140 x 140 mm) that have been affected by flakes into a rod of 52 to 65 mm diameter, flakes are welded off and do not appear again on cooling of the metal in air. Longitudinal mechanical properties (σ_b , σ_s , ψ , δ and a_k) of metal with welded off flakes do not differ from those of metal rolled from blooms and billets not affected by flakes. Metal with welded off flakes can, however, have a somewhat lower impact strength in transverse specimens (steel 40KhN) and a lower fatigue strength (steels 40KhN and 40KhNMA). There are 2 figures, 2 tables and 4 Soviet references.

ASSOCIATIONS: Chelyabinskiy politekhnicheskiy institut
(Chelyabinsk Polytechnical Institute)
Chelyabinskiy metallurgicheskiy zavod
(Chelyabinsk Metallurgical Works)

SUBMITTED: May 20, 1960

Card 3/3

ROZENTSEV, Ya. D.

115

PHASE I BOOK EXPLOITATION

SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th,
Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii
(Physicochemical Bases of Steel Making; Transactions of the
Fifth Conference on the Physicochemical Bases of Steelmaking)
Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted,
3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR, Institut metallurgii imeni
A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy
of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg.
Tech. Ed.: V. V. Mikhaylova.

Card 1/16

Physicochemical Bases of (Cont.)

SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

Card 2/16

Physicochemical Bases of (Cont.)

SOV/5411

Regime and the Gas Content in Metal

94

Povolotskiy, D. Ya., I. A. Lubenets, M. I. Kolosov, D. Ya. Vaynshteyn, and A. N. Morozov. Desiliconizing With Oxygen for Pig Iron Open-Hearth Furnaces

99

Shalimov, A. G., and A. K. Petrov. Investigating the Effectiveness of Treating the Molten Electric Steel by Synthetic Lime-Alumina Slag

106

[The investigation was conducted under the guidance of S. G. Voinov, Candidate of Technical Sciences, with the participation of staff members of TsNIChM (Central Scientific Research Institute of Ferrous Metallurgy) A. I. Osipov, Candidate of Technical Sciences, Ya. M. Bokshitskiy, Engineer, A. G. Shalimov, Candidate of Technical Sciences, L. F. Kosoy, Engineer, A. I. Polyakov, and staff members of the Zlatoustovskiy metallurgicheskiy zavod

Card 6/16

ACC NR: AP6035904

SOURCE CODE: UR/0413/66/000/020/0145/0145

INVENTOR: Tsybuk, B. S.; Petrov-Onegin, V. I.; Fovolotskiy, E. L.; Yurovskiy, V. S.; Komarnitskiy-Kuznetsov, V. K.; Sapershteyn, B. D.

ORG: none

TITLE: Device for studying elastic seals. Class 42, No. 187379 /announced by the Scientific Research Institute of the Rubber Industry (Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti)7

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 145

TOPIC TAGS: hermetic seal, sealing device, seal test device, test facility, test method

ABSTRACT: An Author Certificate has been issued for a device for studying elastic seals, which includes a transparent shaft and a device for fastening the test parts onto it. To study the behavior of the elastic-seal surface in contact with the shaft, the shaft is made hollow, with a conical inner surface (coaxial with its outer surface), and contains a light source. In order to record the behavior of the elastic-seal surface in contact with the shaft, it is equipped with a motion-picture camera. Orig. art. has: 1 figure. [WA-98]

SUB CODE: 13/ SUBM DATE: 24Jun65/

Card 1/1

UDC: 678.06-762 678.05.016 620:162

S/017/61/000/012/001/001
D034/D113

AUTHOR: Povolotskiy, G., Docent, Candidate of Technical Sciences

TITLE: The force of an explosion

PERIODICAL: Voyennye znaniya, no. 12, 1961, 22-23

TEXT: The structure, application and special features of explosive substances are discussed with reference to industrial and military requirements. Having indicated the advantages of using explosives for blasting and mining purposes, the author describes the processes for obtaining explosives such as trotyl, nitroglycerin and hexogen. At present, nearly 2500 different explosive substances are known, and they can be divided into two main groups: primary and brisant explosives. The former are used in devices intended for initiating the explosive decomposition of other explosives. The most important of them are mercury fulminate, lead azide and lead styphnate. Brisant explosives are used in shells, aviation bombs, mines, torpedoes, for the manufacture of blasting charges, and for the bursting charges of artillery and aircraft munitions. The most important brisant explosives are trotyl.

Card 1/2

The force of an explosion

S/017/61/000/012/001/001
D034/D113

tetryl and hexogen, of which hexogen is the most powerful. Only trotyl can be used in its pure form. A certain amount of aluminum added to trotyl-
hexogen mixtures increases the power of the bursting charge. Tetryl is used
mainly for manufacturing supplementary or intermediary detonators for burst-
ing charges. In his concluding remarks, the author describes the principles
of the explosion of shells, aviation bombs, etc. There are 2 figures. [Ab-
stracter's note: No data on specific types of Soviet military or industrial
explosive equipment is given.] ✓

Card 2/2

POVOLOTSKIY, G., dotsent, kand.tekhn.nauk

Force of an explosion. Voen. znan. 37 no.12:22-23 D '61.
(Explosives) (MIRA 14:11)

POKROVSKIY, G. I.

AID P - 310

Subject : USSR/Aeronautics
Card : 1/1
Author : Povolotskiy, G., Lt. Col., Engineer, Dotsent, Kand. of
Techn. Science
Title : Explosion and its Action
Periodical : Vest. Vozd. Flota, 7, 78-81, J1 1954
Abstract : This is a review of a book Explosion and its Action by
Pokrovskiy, G. I., in which the reviewer analyses the
physical and chemical aspects of explosion.
Institution : None
Submitted : No date

POVOLOTSKIY, G.M.

NAUMENKO, Ivan Artemovich; PETROVSKIY, Ivan Grigor'yevich; POVOLOTSKIY,
G.M., dotsent, kandidat tekhnicheskikh nauk, inzhener-polkovnik,
redaktor; KADER, Ya.M., redaktor izdatel'stva; SOROKIN, V.V.,
tekhnicheskiiy redaktor

[Shock waves in atomic explosions] Udarnaia volna atomnogo
vzryva. Moskva, Voen. izd-vo M-va obor. SSSR, 1956. 159 p.

(MLRA 10:4)

(Shock waves) (Atomic bomb)

CHUGUNIKHIN, Sergei Ivanovich; STALIN, Viktor Mikhailovich; POVOLOTSKIY,
Igor' Aleksandrovich; ABMORSHEV, Valentin Ivanovich; BAZER, Iakov
Isayevich; LADYGIN, A.M., redaktor; ANDREYEV, G.G., tekhnicheskij
redaktor

[Mine rock and coal loading machines] Shakhtnye porodopogruzochnye
i uglepogruzochnye mashiny. Moskva, Ugletekhizdat, 1955. 379 p.
(Coal mining machinery) (MLRA 8:11)

KOMAROV, N.I., inzhener; POVOLOTSKIY, I.A., inzhener; FURMANENKO, N.I., inzhener;
YATSKIKH, V.G., inzhener.

Testing the KN-1 and KN-2 coal cutter-loaders. Mekh.trud.rab.10 no.4:
33-36 Ap '56. (Coal mining machinery) (MLRA 9:7)

VESHITSKIY, V.A.; TAFISTO, N.V.; POVOLOTSKIY, I.A.

Map of pipelines of Western Europe. Neft. i gaz. prom. no.2:77-79
Ap-Je '62. (MIRA 15:6)

(Europe, Western--Pipelines--Maps)

ALEKSANDROV, B.F., inzh.; BALKOV, V.M., inzh.; BARANOVSKIY, F.I., inzh.;
 BOGUTSKIY, N.V., inzh.; BUN'KO, V.A., kand.tekhn.nauk, dotsent;
 VAVILOV, V.V., inzh.; VOLOTKOVSKIY, S.A., prof., doktor tekhn.nauk;
 GRIGOR'YEV, L.Ya., inzh.; GRIDIN, A.D., inzh.; ZARMAN, L.N., inzh.;
 KOVALEV, P.F., kand.tekhn.nauk; KUZNETSOV, B.A., kand.tekhn.nauk,
 dotsent; KUSNITSYN, G.I., inzh.; LATYSHEV, A.F., inzh.; LEYBOV,
 R.M., doktor tekhn.nauk, prof.; LEYTES, Z.M., inzh.; LISITSYN, A.A.,
 inzh.; LOKHANIN, K.A., inzh.; LYUBIMOV, B.N., inzh.; MASHKEVICH,
 K.S., inzh.; MALKHAS'YAN, R.V.; MILOSERDIN, M.M., inzh.; MITNIK,
 V.B., kand.tekhn.nauk; MIKHEYEV, Yu.A., inzh.; PARAMONOV, V.I.,
 inzh.; ROMANOVSKIY, Yu.G., inzh.; RUBINOVICH, Ye.Ye., inzh.;
 SAMOYLYUK, N.D., kand.tekhn.nauk; SMEKHOV, V.K., inzh.; SMOLDY-
 REV, A.Ye., kand.tekhn.nauk; SNAGIN, V.T., inzh.; SNAGOVSKIY,
 Ye.S., kand.tekhn.nauk; FEYGIN, L.M., inzh.; FRENKEL', B.B., inzh.;
 FURMAN, A.A., inzh.; KHORIN, V.N., dotsent, kand.tekhn.nauk; CHEST-
 VEROV, B.M., inzh.; CHUGUNIKHIN, S.I., inzh.; SHELKOVNIKOV, V.N.,
 inzh.; SHIRYAYEV, B.M., inzh.; SHISHKIN, N.F., kand.tekhn.nauk;
 SHPIL'BERG, I.L., inzh.; SHORIN, V.G., dotsent, kand.tekhn.nauk;
 SHTOKMAN, I.G., doktor tekhn.nauk; SHURIS, N.A., inzh.; TERPIGOREV,
 A.M., glavnyy red.; TOPCHYEV, A.V., otv.red.toma; LIVSHITS, I.I.,
 zamestitel' otv.red.; ABRAMOV, V.I., red.; LADYGIN, A.M., red.;
 MOROZOV, R.N., red.; OZERNOY, M.I., red.; SPIVAKOVSKIY, A.O.,
 red.; FAYBISOVICH, I.L., red.; ARKHANGEL'SKIY, A.S., inzh., red.;
 (Continued on next card)

ALEKSANDROV, B.F.---(continued) Card 2.

BELYAYEV, V.S., inzh., red.; BUKHANOVA, L.I., inzh., red.; VLASOV, V.M., inzh., red.; GLADILIN, L.V., prof., doktor tekhn.nauk, red.; GREBTSOV, N.V., inzh., red.; GRECHISHKIN, F.G., inzh., red.; GONCHAREVICH, I.F., kand.tekhn.nauk, red.; GUDALOV, V.P., kand.tekhn.nauk, red.; IGNATOV, N.N., inzh., red.; LOMAKIN, S.M., dotsent, kand.tekhn.nauk, red.; MARTYNOV, M.V., dotsent, kand.tekhn.nauk, red.; POVOLOTSKIY, I.A., inzh., red.; SVETLICHNYY, P.L., inzh., red.; SAL'TSEVICH, L.A., kand.tekhn.nauk, red.; SPERANTOV, A.V., kand.tekhn.nauk, red.; SHELTER, G.A., inzh., red.; ABARBARCHUK, F.I., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.; KONDRAT'YEVA, M.A., tekhn.red.

[Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheskiy spravochnik. Glav.red.A.M.Terpigorev. Chleny glav.redaktsii A.I. Baranov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Vol.7. [Mining machinery] Gornye mashiny. Redkol.toma A.V.Topchiev i dr. 1959. 638 p. (Mining machinery) (MIRA 13:1)

LUCHKIN, V.T.; POVOLOTSKIY, I.A.

Development of power engineering in France. Energ. i elektrotekh.
prom. no.3:73-80 J1~S '62. (MIRA 18:11)

VEYS, D.A.; KOKHTEV, A.A.; LEL'YANOV, V.A.; MALYNICH, V.I.; POVOLOTSKIY, I.I.;
RASKATOV, V.M., inzhener; TOPORNIN, G.S.[deceased]; LAPUSHKIN, A.D.,
dotsent, retsenzent; USPASSKIY, P.P., professor, retsenzent; ~~APPEAN-~~
GEL'SKIY, V.M., kandidat tekhnicheskikh nauk, retsenzent; REGIERER, Z.
L., kandidat tekhnicheskikh nauk, retsenzent; SHAROV, M.Ya., kandidat
tekhnicheskikh nauk, retsenzent; YUR'YEV, M.G., inzhener, retsenzent;
LYUTIKOV, A.F., redaktor; MODEL', B.I., tekhnicheskij redaktor.

[Manual on materials for the construction of locomotives and railroad
cars] Spravochnik po materialam dlia lokomotivo- i vagonostroeniia.
Pod obshchei red. V.M. Raskatova. Moskva, Gos. nauchno-tekhn. izd-vo
machino-stroitel'stva, 1956. 481 p.

(Locomotives--Construction) (Railroads--Cars--Construction)

USSR/Chemical Technology -- Chemical Products and Their Application. Fertilizers,
I-6

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1450

Author: Povolotskiy, L. I., and Vlasova, A. A.

Institution: None

Title: Improved Storage of Mineral Fertilizers

Original

Periodical: Standartizatsiya, 1956, No 3, 72-74

Abstract: An analysis of mineral fertilizers is presented showing that
fertilizer quality decreases sharply when the latter is stored
under unsatisfactory conditions by the consumer.

Card 1/1

POVOLOTSKIY, L.I.

Sixth session of the Technical Committee 61 of the International
Standards Organization. Standartizatsiia no.2:87 Mr-Ap '57.
(Hague--Plastics--Standards) (MIRA 10:6)

POVOLOTSKIY, L.I.

28-5-24/30

AUTHOR: Povolotskiy, L.I.

TITLE: Session of Technical Committee ISO/TK 41 (Sessiya Tekhnicheskogo komiteta ISO/TK 41)

PERIODICAL: Standartizatsiya, 1957, # 5, p 85 (USSR)

ABSTRACT: Information is given concerning the 4th session of the ISO/TC 41 "Pulleys and Belts", in Milan (Italy). Soviet representatives participated.

The Soviet delegation suggested 34 ° and 36 ° grooves for pulleys of 32 to 63 mm diameter and 38 ° grooves for pulleys of 100 mm diameter and larger. This suggestion - based on investigations performed by Candidates of Technical Sciences Sokolovskaya and Pronin - was accepted by the Technical Committee.

The Soviet delegation also contributed experimental data for three coefficients used in the formula for computing the power transmitted by pulleys. The suggestion by the Soviet delegation to compute the length of pulleys on the basis of the 40th series of preference numbers system was supported by the majority and accepted.

Card 1/2 In accordance with the discussions at the session the Soviet delegation suggested amendments for the "ГОСТ" standards for belts